APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/637,400	08/11/2000	Venkataraman Ramanathan	M1103.70076US00	7300

45840	7590	11/29/2006

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EXAMINER
EL CHANTI, HUSSEIN A

ART UNIT	PAPER NUMBER
2157	

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.

09/637,400</td><td>Applicant(s)

RAMANATHAN ET AL.</td><td></td></tr>
<tr><td>Examiner

Hussein A. El-chanti</td><td>Art Unit

2157</td><td></td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>14 September 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-4,7-14 and 17-21</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-4, 7-14 and 17-21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Response to Amendment

1.   This action is responsive to RCE received on Sep. 14, 2006. Claims 1, 11 and 18

were amended. Claims 5-6, 15-16 and 22-23 are canceled. Claims 1-4, 7-14 and 17-21

are pending examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

2.   Claims 1-4, 7-14 and 17-21 are rejected under 35 U.S.C. 102(e) as being

anticipated by Coile, U.S. Patent No. 6,598,081.

As to claim 1, Coile teaches a method of increasing throughput of a server

capable of servicing at least one TCP/IP connection with a client, the server creating a

TCP/IP Transmission Control Block (TCB) stored in non-paged pool (NPP) memory

containing information required to identify and to service the client connection,

comprising the steps of:

closing a TCP/IP connection (see col. 11 lines 58-col. 12 lines 8, TCP/IP

connection is closed);

excluding information from the TCB not required to identify the client connection

to form a timed-wait state TCB (TWTCB) for a time-wait period (see col. 11 lines 58-col.

12 lines 8 and col. 8 lines 58-col. 9 lines 10, connection objects are created that have

smaller size than the TCB); and

releasing the NPP memory containing the information required to service the

client connection (see col. 11 lines 58-col. 12 lines 8);

wherein excluding information includes excluding at least one of a connection

state information, send and receive queue information, a routing disconnect indication,

and a routing information for the connection (see col. 13 lines 57-67).

As to claim 2, Coile teaches the method of claim 1, wherein the step of excluding

comprises the step of copying the information required to identify the client connection

to form the TWTCB (see col. 11 lines 58-col. 12 lines 8).

As to claim 3, Coile teaches the method of claim 2, wherein the step of releasing

the NPP memory containing the information required to service the client connection

includes the step of releasing the NPP memory of the TCB required to identify the client

connection (see col. 11 lines 58-col. 12 lines 8).

As to claim 4, Coile teaches the method of claim 1, wherein the step of excluding

information not required to identify the client connection to form the TWTCB comprises

the step of maintaining a minimum of information necessary to avoid late-routed packets

forming new connections on the server. (see col. 11 lines 58-col. 12 lines 8)

As to claim 7, Coile teaches the method of claim 1, wherein the step of excluding

information not required to identify the client connection comprises the step of forming a

TWTCB that occupies less memory than the TCB (see col. 11 lines 58-col. 12 lines 8).

As to claims 8, Coile teaches the method of claim 7, wherein the step of forming a TWTCB that occupies less memory than the TCB comprises the step of. forming a TWTCB that occupies approximately 96 bytes of memory (see col. 8 lines 58-col. 9 lines 10).

As to claim 9, Coile teaches the method of claim 7, wherein the step of forming a TWTCB that occupies less memory than the TCB comprises the step of forming a TWTCB that occupies approximately 64 bytes of memory (see col. 8 lines 58-col. 9 lines 10).

As to claim 10, Coile teaches the method of claim 7, wherein the step of forming a TWTCB that occupies less memory than the TCB comprises the step of forming a TWTCB that occupies approximately a single cache line (see col. 8 lines 58-col. 9 lines 10).

As to claim 11, Coile teaches a method for increasing the throughput of a server capable of servicing at least one TCP/IP connection, the server establishing a TCP/IP Transmission Control Block (TCB) of a size and containing information sufficient to identify and service the connection, comprising the steps of:

closing the at least one TCP/IP connection;

forming a Timed-Wait TCB (TWTCB) of a size less than the TCB; and

releasing the TCB for use by the server;

wherein excluding information includes excluding at least one of a connection state information, send and receive queue information, a routing disconnect indication, and a routing information for the connection (see col. 13 lines 57-67).

As to claim 12, Coile teaches the method of claim 11, wherein the step of forming a TWTCB comprises the step of copying a portion of the information of the TCB, the portion of information being sufficient to identify the TCP/IP connection to prevent late routed packets from forming new connections (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 13, Coile teaches the method of claim 12, wherein the TCB occupies approximately 440 bytes of memory, and wherein the step of forming a TWTCB comprises the step of forming a TWTCB that occupies approximately 206 bytes of memory (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 14, Coile teaches the method of claim 12, wherein the TCB occupies approximately 440 bytes of memory, and wherein the step of forming a TWTCB comprises the step of forming a TWTCB that occupies approximately 32 bytes of memory (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 17, Coile teaches the method of claim 11, wherein the step of forming a TWTCB comprises the step of copying a portion of the information of the TCB, the portion of information being insufficient to service the TCP/IP connection (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 18, Coile teaches a computer readable medium having computer-executable instructions for performing steps, comprising: closing a TCP/IP connection; copying less than all information stored in a TCP/IP Transmission Control Block (TCB) into a Timed-Wait TCB (TWTCB); and maintaining the TWTCB for a timed

wait period to avoid late routed packets from establishing a new connection with a

server(see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10);

wherein excluding information includes excluding at least one of a connection

state information, send and receive queue information, a routing disconnect indication,

and a routing information for the connection (see col. 13 lines 57-67).

As to claim 19, Coile teaches the computer-readable medium of claim 18,

wherein the step of copying less than all the information stored in a TCB into a TWTCB

comprises the step of copying information sufficient to uniquely identify the TCP/IP

connection (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 20, Coile teaches the computer-readable medium of claim 18, further

comprising the step of releasing memory used to store the TCB for use by the server

after the step of copying less than all of the information stored in the TCB into a TWTCB

(see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 21, Coile teaches the computer-readable medium of claim 18,

wherein the step of copying less than all the information stored in a TCB into a TWTCB

results in a structure for the TWTCB that fits on one cache line (see col. 11 lines 58-col.

12 lines 8 and col. 8 lines 58-col. 9 lines 10).

3.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hussein A. El-chanti whose telephone number is

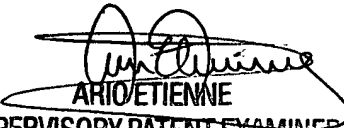(571)272-3999. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Hussein El-chanti

Nov. 13, 2006

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